



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/016,777	12/10/2001	Ameel M. Kamboh	2204/B10	3363
34845	7590	05/15/2006	EXAMINER	
McGUINNESS & MANARAS LLP			SWEARINGEN, JEFFREY R	
125 NAGOG PARK			ART UNIT	
ACTON, MA 01720			PAPER NUMBER	

2145

DATE MAILED: 05/15/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/016,777

Applicant(s)

KAMBOH ET AL.

Examiner

Jeffrey R. Swearingen

Art Unit

2145

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 27 April 2006.  
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-19 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1-19 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.  
5) ☐ Notice of Informal Patent Application (PTO-152)  
6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 3/30/2006 has been entered.

### ***Response to Arguments***

2. Applicant's arguments with respect to claims 1-19 have been considered but are moot in view of the new ground(s) of rejection.

### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1-19 are rejected under 35 U.S.C. 102(e) as being anticipated by Boucher et al. (US 6,427,173 B1).

5. In regard to claims 1, 9-10 and 14, Boucher disclosed *at least one interface for receiving and transmitting data packets* (column 6, line 2); *a set of routing processors coupled to the at least one interface, including a first routing processor exclusively associated with a first routing protocol for determining a set of routes, and a second routing processor exclusively associated with a second routing protocol for determining a set of routes* (column 6, lines 15-62, multiple protocol stacks were used in lines

Art Unit: 2145

45-46; column 7, lines 1-5 provided for independent processors); and a *routing table manager coupled to the set of routing processors, for maintaining a forwarding table of routes provided by the set of routing processors* (the communication control block stored at the communication processing device, column 6, lines 32-44).

6. In regard to claims 2 and 15, Boucher disclosed *a set of fast forward engines coupled to the at least one interface and the routing table manager for forwarding a data packet based on the forwarding table* (fast-path, column 6, line 36).

7. In regard to claims 3, 13 and 16, Boucher disclosed *the routing table manager is exclusively associated with a third processor* (column 7, lines 1-10, independent processors for transmitting and receiving network information, and further processors for assisting and queuing, trio of receive, transmit, and utility processors).

8. In regard to claims 4, 11 and 19, Boucher disclosed *each routing processor includes memory*. This was inherent to Boucher.

9. In regard to claims 5 and 12, Boucher disclosed *a memory that includes RAM, cache memory, and queue memory*. All three types of memory were inherent to the operation of Boucher.

10. In regard to claim 6, Boucher disclosed *the routing table manager processor includes memory in which the forwarding table may be stored*. The storage of the forwarding table in memory was inherent to the operation of Boucher.

11. In regard to claims 7 and 17, Boucher disclosed *a control data module coupled to the at least one interface for receiving and processing control data messages from a control data bus* (column 12, lines 41-45); and *a routing data module coupled to the at least one interface and the set of routing processors for receiving and processing routing data messages from a routing data bus* (column 14, line 51, redirector software).

12. In regard to claims 8 and 18, Boucher disclosed *the control data module and the routing data module are implemented on the same processor* (column 18, lines 3-10 and 17, utility processor).

### Conclusion

Art Unit: 2145

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

14. The Culler reference previously cited referred to the division of processing tasks over multiple processors. Even if Boucher were found to fail to teach the division of processing among various processors, the multiple processors present in Boucher would allow for an obviousness rejection using the parallel processing techniques of Culler.

15. Further references dealing with protocol processing stacks and fast forward engines are:

Craft et al. US 6,427,171 B1

Boucher et al. US 6,393,487 B2

Boucher et al. US 6,389,479 B1

Boucher et al. US 6,434,620 B1

Boucher et al. US 6,658,480 B2

Anerousis et al. US 6,760,775 B1

O'Connor, M. et al. "The iFlow Address Processor". IEEE Micro. March-April 2001. Vol 21, Issue 2, 16-23.

Waldvogel, Marcel et al. "Scalable High-Speed Prefix Matching." ACM Transactions on Computer Systems. Vol 19, No 4, Nov. 2001. 440-82.

Kohler, Eddie et al. "The Click Modular Router". ACM Transactions on Computer Systems. Vol 18, No 3, August 2000. 263-97.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffrey R. Swearingen whose telephone number is (571) 272-3921. The examiner can normally be reached on M-F 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Cardone can be reached on 571-272-3933. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2145

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Jason Cardone  
Supervisory Patent Examiner  
Art Unit 2145